Responses to Comments in Letter 156 from Andy Ross, Bellingham Resident

Note: The responses listed below are numbered to correspond to the numbers shown in the right-hand margin of the preceding comment letter.

1. Please see Letter 148, Response to Comment 1 for discussion of the EIS process. Jones & Stokes is the environmental consultant for EFSEC. Jones & Stokes independently reviewed information prepared by the applicant's consultant (Dames & Moore) and was responsible for preparing the EIS.

2. Thank you for your comments.

3. The statement in the USGS report (1999) is based on research by Kohut (1987), who concluded that local drawdowns in the Sumas-Abbotsford area were the result of pumping interference between a concentration of high-yield wells in that area. Based on water balance calculations that he performed in that study, he concluded that the drawdown was not the result of mining of the aquifer. The Final EIS more accurately reflects this study and the original author's intent.

   With regard to the need for pumping tests, Robinson & Noble performed pumping tests on the City wells when they were installed. They have interpreted those results to indicate that a drawdown of up to one foot, within a radius of one mile from the wells, could theoretically occur as a result of pumping of the City wells at their full allotment. (See Volume 1, Appendix J for a copy of the Robinson & Noble report.)

4. See Letter 156, Response to Comment 3 (above) for discussion of the pumping test. SE2 has agreed that they would provide mitigation in the event that wells within the one-mile radius (on the Washington side of the border) are impaired as a result of the added pumping. The Final EIS also recommends that a comparable mitigation be offered to any well owners who experience well impairment that demonstrably resulted from the added groundwater withdrawal for the plant.

5. Table 1-2 in the EIS has been modified to include the mitigation requirement for May Road well field groundwater extraction. Because of the potential for drawdown in the area of Johnson Creek, springflow that feeds this stream will be augmented by 18 percent of the water withdrawn to maintain minimum flow. See General Response G for a discussion of impacts of groundwater extraction on streamflow.

6. As described in the City of Sumas Water System Comprehensive Plan, the City has evaluated its water use throughout the year and made projections of that use based on dry, hot years. Based on that information, the City has concluded that they would not be able to provide sufficient water to SE2 during peak water use times. Accordingly, SE2 has proposed to construct a storage tank with sufficient capacity to meet the project's water needs during periods when the City would not be able to provide their full allotment. In the event there is a water shortage, the City has indicated that industrial users including SE2 would have to curtail their use if necessary to maintain service to other users. Please

see General Response D for further discussion of long-term impacts to the aquifer from Sumas water use.

7. Please see General Response E, which discusses nitrate contamination in the groundwater and mitigation measures that are presented in the Final EIS.

8. Thank you for your comment. We have revised this section of the Final EIS to better convey its intent. With regard to your second point, the concept of incremental change has been more fully explained. However, we cannot conclude that the groundwater would not deteriorate without S2GF for two reasons: (1) the groundwater in some of the wells is currently deteriorating, and (2) the City of Sumas would attempt to find another user if S2GF is not built, so the water would likely be used regardless of whether this project is the user. Ultimately, however, we reiterate that there is not sufficient information to determine the effects of increased pumping. SE2 has agreed to pay for a water treatment system for the City water supply in the event nitrates in the municipal well field exceed drinking water standards after the plant comes online.

9. Much of the information the commentor considered missing is provided in Appendix C of the Application for Site Certification. For related information please see General Response D.

10. The statement the commentor has cited was not used in preparing the EIS. However, it should be pointed out that the recharge area of the Sumas aquifer is very large and mostly unconfined. Also, regional studies that have been performed to assess the water balance of the aquifer have concluded that recharge is significantly greater than groundwater use (Kohut 1987).

11. Please see response to above comments. Additional explanation of the available information has been included in the Final EIS to provide a better basis for an informed decision about the impact of S2GF on water resources. Where data are not available, or sufficiently reliable data could not be attained within a reasonable length of time to develop a clear understanding of the potential impacts of added groundwater withdrawal, mitigation measures have been offered by the applicant or recommended by the EIS team.

12. This comment refers to information in the Application for Site Certification, not the Draft EIS. Nonetheless, the Marblemount air quality and visibility data used to characterize the North Cascades National Park (NCNP) in the Draft EIS was selected by National Park Service staff as the best data available for the NCNP. In order to build conservatism into the analysis, background aerosol concentration data used in the assessment of regional haze are based on the days with the best visibility. These aerosol data should also be representative of good visual conditions at higher elevations in the NCNP. In addition to aerosol concentrations, low relative humidity contributes to good visual conditions. The regional haze modeling approach considers the spatial variability of humidity, and the lower humidity that sometimes occurs at high elevations during good visual conditions was accounted for in the analysis.

The view of Mt. Shuksan from the Mt. Baker Ski Area was characterized in the analysis using receptors located within the Mt. Baker Wilderness and the NCNP. With the exception of the oil-fired scenario, the maximum predicted change to extinction in these areas was not significant (less than 5 percent) using background aerosol data from the cleanest days (please see Table 6.1-27 in the Application for Site Certification). For two winter days under the oil-firing scenario, the predicted change to extinction was grater than 5 percent but less than 10 percent. The meteorological conditions on these two days were examined and temperatures were near the winter average; thus it is unlikely that oil-firing associated with gas curtailment and severe cold weather would occur on such days.

13. The regional haze assessment was based on a grid with a 4 km mesh size and a modeling domain of 376 km by 292 km. The selection of the mesh size and domain is a compromise between the resolution necessary to characterize both local circulations and transport over distances as far away as the Alpine Lakes Wilderness and Olympic National Park. The grid mesh size was approved by the Department of Ecology, the National Park Service, and the U.S. Forest Service prior to the analysis based on their knowledge of local weather patterns, the proximity of the site to NCNP, and the objectives of the regional haze assessment.

    As pointed out by the commentor, Figures 6.1-27 and 6.1-28 from the Application for Site Certification show the effects of a local circulation causing the plume from the proposed facility to enter NCNP from the Chilliwack Valley system. In fact, these conditions result in the highest predicted concentrations in NCNP from the proposed project and are consistent with the observations of the commentor.

14. The authors of the FEIS disagree with the comment. The winds shown in Figures 6.1-13 through 6.1-15 are consistent with the local surface observations during this sampling period and also show many features of typical Northwest circulations. For example, the figures show the effects of slope flows on surface winds, the channeling of terrain, the freshening of winds over areas with low surface roughness, the blocking of winds on the windward side of the Cascades, downslope acceleration, and the lee side trough that forms in the upper level winds on the east side of the Cascades. Also, please note that these figures were constructed from the wind fields predicted for a single hour out of a full year of meteorological simulations. The figures are not intended to be representative of conditions other than those for this hour. Since a full year of three-dimensional meteorology was considered in the regional haze assessments, the predictions are robust with respect to many possible wind field and weather regimes.

    The USGS 1:250,000 scale terrain data used to construct the terrain input data in the regional haze assessment has a spatial resolution of about 90 meters which is more than adequate for the purposes of such an assessment.

15. The “Assessment of Air Quality Related Values for Class I Areas” in the Draft EIS included an analysis of potential impacts on sensitive plants, soils, and receiving water bodies. The impacts of emissions from the proposed facility on soils and vegetation in Class I areas were evaluated by comparing estimated concentrations and deposition fluxes with criteria specified by the U.S. Forest Service. As shown in Table 3.1-15 of the

Draft EIS, the 24-hour maximum and annual estimates for NOx and SO2 are less than the USFS criteria established to protect vegetation in Pacific Northwest Class I areas.

16. The five-year length of the meteorological data set used in the assessment of local air quality impacts is the length of data recommended by the EPA in "Guideline of Air Quality Models" (40 CFR Part 51, Appendix W). This length of data is considered by the EPA to be more than sufficient to characterize potential maximum impacts from a project for regulatory purposes.

17. The City of Sumas, in its 1999 Water System Comprehensive Plan, indicates that in the event of a water shortage, residential customers would have first priority to receive water from the municipal water supply. SE2 understands that the water supply to the plant could be reduced or curtailed in the event of reduced capacity from City wells. The applicant has also agreed that they would mitigate any impairment of water quantity to private wells and water rights within a one-mile radius of the Sumas municipal well field south of the Canadian border that results from the increased pumping required for the S2GF project (Adjudicative Hearing Transcript, testimony by Ms. McGaffey, pages 906-910). These provisions are discussed in Section 3.2.5.2 of the FEIS.

    As discussed in the EIS, the City of Sumas intends to put its full water rights to beneficial use. A City of Sumas official indicated that the City determined there is sufficient water available for the next 20 years for other new businesses in addition to SE2. After that, additional water availability is not as certain (Adjudicative Hearing Transcript, testimony by David Davidson, pages 946-957).

18. As indicated in Chapter 1 of the EIS, the S2GF would be a "merchant" plant. Thus, the power produced by the facility would be sold wherever there is a market. Puget Sound Energy is not obligated to purchase the power from the S2GF.

19. It is not anticipated that visibility and tourism will be significantly affected by operation of the plant since it will only provide a minimum incremental increase in emissions and not exceed regulatory standards. For more discussion of visibility, see the response to Letter 49, Response to Comment 7.

20. Please see Letter 3, Response to Comment 1 for a discussion of the relation of air quality standards to human health considerations.

21. Regarding the transmission lines, the 115 kV lines have been eliminated as an alternative. Also see Letter 162, Response to Comment 1 for discussion of transmission grid impacts.

22. See Letter 142, Response to Comment 3 for discussion of load/resource balance in Whatcom County.

23. See Letter 142, Response to Comment 9 for discussion of conservation.

24. Please see General Response I for a discussion of revisions in the proposed approach to wastewater disposal.